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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,423	11/28/2001	John Whitman	4294.3US (98-1208.3)	2810

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EXAMINER

PHAM, THANH V

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 11/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/996,423

Applicant(s)

WHITMAN ET AL.

Examiner

Thanh V Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 & 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is understood that there are four different steps in the method of claim 1 and the use of "comprising" allows those steps be performed in any sequence. Claim 1 recites only one "spinning" step after which the steps of "decreasing a rate of said spinning" and/or "gradually increasing a rate of said spinning". Therefore, claim 5 recites "said decreasing said rate follows said spinning" does not further limit claim 1.
2. Claim 13 is objected to because of the following informalities: the word "also" is not needed because it creates confusion. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:  
  
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility.

The claim recites four different steps with one spinning step wherein the decreasing and increasing steps of said spinning are contradicted to each other. It is not clear where to start the increasing or the decreasing of said spinning.

Claim 1 is also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

5. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no where in the specification teaches gradually increasing said rate of said spinning *to a third speed after said spinning said substrate at said first speed* ([0012], [0014], [0019] and the examples in the instant specification.)

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 4, 7, 11, 14 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The term "gradually" in claims 1, 7 and 14 is a relative term which renders the claim indefinite. The term "gradually" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in

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the art would not be reasonably apprised of the scope of the invention. It is not clear at what rate the increasing is recited.

9. Claims 7 and 14 recite the limitation "said spinning" in the last lines. There is insufficient antecedent basis for this limitation in the claims. It is not clear, which spinning step (in line 3 or line 5 of claim 7, and in line 3 and line 4 of claim 14) that the step in the last lines of the claims is referred to.

10. Claims 4, 11 recite the limitation "spinning said substrate and said material at said third speed" and claim 20 recites the limitation "spinning said substrate at said third speed" in the claims. There are insufficient antecedent basis for these limitations in the claims. The independents, which these claims depend on, recite different subjects for "said third speed".

### ***Suggestion***

11. It is suggested that claim 12 and claim 5 are deleted, and the independent claims are rewritten to overcome the above rejections, claim 1 for example, could be rewritten as:

A spin coating method, comprising:

applying a material to a substrate;

spinning said substrate and said material at a first speed;

changing the rate of spinning to a second speed less than the first speed; then

changing the rater of spinning to a third speed greater than the first speed.

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12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

13. *Assuming that the steps in claims 1, 7 and 14 are in that sequences and the claims are rewritten to overcome the objection and the 112 rejections above.*

14. Claims 1, 4, 6, 14-20 are rejected under 35 U.S.C. 102(a) as being anticipated <sup>by</sup> Rodrigues U.S. Patent No. 5,405,813.

The Rodrigues reference discloses a spin coating method (abstract) comprising: applying a material to a substrate; spinning said substrate and said material at the first speed; decelerating to the second speed; then accelerating to a third speed.

15. Claims 1 and 3 are rejected under 35 U.S.C. 102(a) as being anticipated by Yoshihara U.S. Patent No. 6,117,486 (provided by the applicants).

The Yoshihara reference discloses a coating method comprising: applying a material to a substrate; spinning said substrate and said material at the first speed; decelerating to the second speed; then accelerating to a third speed.

### ***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1-4, 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodrigues and the following reason.

Rodrigues teaches all steps of the instant invention but lacks a clear teaching on filling recesses at first speed and letting the material set at second speed. It would have been inherently include in the rotation speeds that the material when spread over the surface of a wafer would fill the recesses at a first speed and would set at a second speed; however, if not, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the appropriate speeds for the two rotations to have the material fill the recess and to set into the process of Rodrigues because such rotation speeds would have been selected in accordance within the spin coating art to have a desired coating thickness as taught by Rodrigues.

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh V Pham whose telephone number is 703-308-2543. The examiner can normally be reached on M-T (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722


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(7724, 3431 and 3432) for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TVP

TvP  
October 29, 2002

  
Olik Chaudhuri  
Supervisory Patent Examiner  
Technology Sector 2800